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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,472	07/27/2006	Akio Taniguchi	5404/165	5181

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EXAMINER	
MULLIS, JEFFREY C	

ART UNIT	PAPER NUMBER
1796	

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07/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,472	TANIGUCHI ET AL.	
	Examiner	Art Unit	
	Jeffrey C. Mullis	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claims 19 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as filed discloses nothing about a "polymer blocker" and this limitation is therefore new matter.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "converted to crosslinked" is unclear since it is ambiguous as to what the term "crosslinked" pertains to.

The above rejection may be overcome by deleting "converted to" in the last lines of claims 1 and 19.

The terms "polymer blocker" and "radial polymerization" are not art recognized and are therefore unclear and furthermore the term "polymer blocker" lacks antecedent basis within claim 19.

Claims 1-18 are unclear in that "molding" and a reaction at molding are recited despite the fact that no molded material is otherwise not recited (and in fact a composition, not a molded article is recited in the first line of claim 1) and therefore it can not be ascertained if a molded material is being claimed or if a mere characteristic (reaction of epoxy and anhydride groups) inherent when molding tales place is being

claimed. Furthermore as it is unclear that molding even takes place or is required it is unclear that any reaction at all need take place at all.

Viscosities are a function of concentration, temperature and solvent and since none of these features are recited in claim 13, claim 13 is unclear.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goetz et al. (US 2003/0100675).

Goetz et al. discloses a composition containing a flow control agent containing a block copolymer with alkyl acrylate /alkylmethacrylate blocks (examples) in which the blocks may contain anhydride functionality (paragraph 44) and to which may be added a free radically produced epoxy functional acrylate polymer having a molecular weight of as little as 500 (paragraphs 120-122). Applicants' molecular weights are disclosed in paragraph 89.

There are no examples of compositions' in which all of applicants limitations are present in combination. However it would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to arrive at applicants' composition by selecting from the various disclosures of the reference in the expectation of adequate results absent any showing of surprising or unexpected results.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakeda (WO 02092696) in view of Goetz, cited above and either Nakashima et al. (US 6,576,691) or Kawakubo et al. (US 5,976,289).

It is noted that Kakeda '696 corresponds to US 2004/0147674 which will be referred to since it is in English.

Kakeda discloses a composition containing a block copolymer having an acrylic block and a methacrylic block (abstract) containing a reactive group such as carboxyl in applicants amounts in combination with a thermoplastic (paragraph 20) which may include epoxy group containing copolymers (paragraphs 28 and 60). The carboxyl may be converted to anhydride by dehydration in paragraph 185 and would therefore have the structure of applicants claim 2. Paragraph 64 of the document discloses that molecular are result effective variables and are "preferably" as low as 10,000 thus implying that even lower (unpreferred) molecular weight block copolymers may be used. Compression or blow molding is disclosed in paragraph 302 and production of automotive articles in paragraph 485. Addition of fillers and lubricants are disclosed in paragraphs 293 and 298.

There are no specific examples of compositions in which all of applicants materials are present simultaneously in combination and "powder slash molding" or skin production is not disclosed not are the acrylic copolymer molecular weights of claim 12 disclosed. However it would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to arrive at applicants composition by selecting from the

various disclosures of the reference in the expectation of adequate results absent any showing of surprising or unexpected results.

The equivalence of powder slash molding, compression and blow molding is disclosed by Nakashima at column 8, lines 13-20.

Kawakubo discloses the production of a skin for automotive interiors at column 5, lines 20-30 and Figure 9.

It would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to use powder slash molding in the process of Kakeda since Kakeda discloses the use of compression or bloc molding and since Nakashima discloses the equivalence of these methods and powder slash molding for producing articles absent any showing of surprising or unexpected results.

It would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to mold skins from the composition of the primary reference since the primary reference discloses that automotive articles can be produced using their composition and by the disclosure of the secondary reference that automotive skins can be produced by powder slush molding and thus use of such a process in the primary reference would meet the goals of the primary reference absent any showing of surprising or unexpected results.

It would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention to use the epoxy acrylic of the primary reference in the form of the molecular weight of 500 of the secondary reference motivated by the need to choose a molecular weight for the epoxy containing acrylic of the primary reference in order to

use it and by the disclosure of the secondary reference of molecular weights which are useable in a similar composition and therefore workable absent any showing of surprising or unexpected results. Furthermore the teachings of the secondary reference are optional in that it requires only routine experimentation to find the optimum or workable range of result effective variable absent any showing of surprising or unexpected results.

Applicant's arguments filed 3-20-09 have been fully considered but they are not persuasive.

Applicants point to the data in their specification as proof of unexpected results. However, applicants Examples are unclear as to where in their block copolymers carboxyl generating moieties (presumably tert butyl (meth)acrylate) are introduced but the most likely interpretation of applicants examples is that the carboxyl groups are generated on internal blocks in examples supposedly according to the invention. On the other hand carboxyl groups in block copolymers in the comparative examples appear to be generated on terminal blocks. If so, such examples rely on limitations not present in the claims. Furthermore the examples supposedly according to the invention clearly contain block copolymers having a mixture of carboxyl and anhydride while the comparative examples only contain carboxyl. Also none of applicants comparative examples are actually embodiments of the closest prior art as required by MPEP 716 which in the instant caser is the art relied upon. Note in this regard that Goetz requires a fluorinated block despite the fact that no fluorinated block copolymers are shown in applicants comparative examples and Goetz uses a epoxy containing polymer despite

the fact that no such polymers are present in applicants comparative examples. Kakeda requires the presence of a thermoplastic despite the fact that no thermoplastic is used in applicants comparative examples. Even assuming that applicants had provided proof of improved results over the prior art (and as set out above such data is inadequate to prove such) it is not clear that applicants improvements are unexpected. For instance, Applicants argue unexpected results based on improved heat resistance. However, it is not unexpected that heat resistance improves with crosslinking in that a crosslinked material can not crosslink. With regard to applicants allegations of unexpected results based on powder slush molding properties, paragraph 194 of applicants published specification implies that such improvement is due to crosslinking. However, the prior art teaches or implies production of crosslinked materials and hence improvements based on crosslinking is not a difference based on differences between the prior art and the claims.

With regard to applicants arguments pertaining to the prima facie case of obviousness, as set out above claim 1 is ambiguous as to whether crosslinking between carboxyl on the block copolymer and epoxy functionality on the acrylic polymer is a requirement and therefore it is immaterial that Goetz may possibly not disclose such. With regard to claim 19 the nature of the reaction of applicants block copolymer is ambiguous given that it is recited to take place with an “acrylic polymer blocker” which makes no sense. Lastly while admittedly the examiner sees nothing explicit in Goetz about reaction of carboxyl/anhydride groups in Goetz’s block copolymer and Goetzs’ epoxy containing acrylic, those skilled in the art would recognize that any epoxy and any

anhydride/carboxyl would react, including the anhydride described at paragraph 44 of Goetz. As set out in the above rejection, given the multifunctional nature of Kakedas' materials, those skilled in the art would assume that such reaction would lead to crosslinking.

Any inquiry concerning this communication should be directed to Jeffrey C. Mullis at telephone number 571 272 1075.

Jeffrey C. Mullis
Primary Examiner
Art Unit 1796

JCM

6-29-09

/Jeffrey C. Mullis/

Primary Examiner, Art Unit 1796